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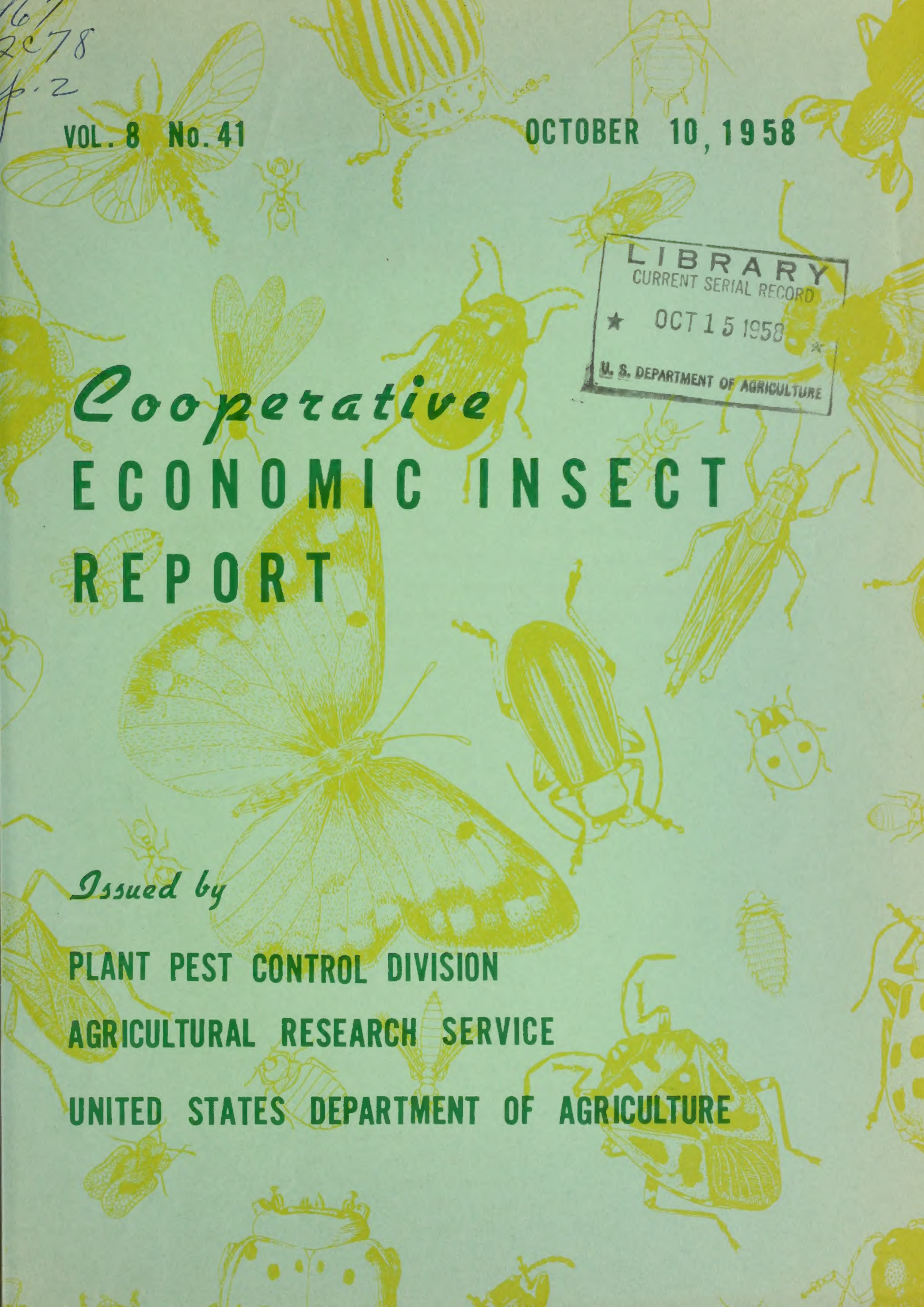

VOL. 8 No. 41

OCTOBER 10, 1958

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U. S. DEPARTMENT OF AGRICULTURE

# *Cooperative*
# ECONOMIC INSECT REPORT

*Issued by*

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

# AGRICULTURAL RESEARCH SERVICE

# PLANT PEST CONTROL DIVISION

## PLANT PEST SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Plant Pest Survey Section
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

Volume 8 October 10, 1958 Number 41

# COOPERATIVE ECONOMIC INSECT REPORT

## Highlights of Insect Conditions

EUROPEAN CORN BORER found for first time in several Arkansas counties. (p. 861).

SPOTTED ALFALFA APHID found for first time in Washington. Causing some damage to alfalfa in several areas. (p. 862). Severe infestation of red clover in Oregon by CLOVER ROOT BORER. (p. 863).

A MEALYBUG (Heterococcus graminicola) reported from California for the first time. (p. 863).

CABBAGE LOOPER continues a problem in several areas. (p. 865).

ELM SPANWORM a problem in several Southeastern States. One million acres of hardwood forest may be defoliated in 1959.

CORRECTION (p. 868).

SURVEY METHOD - White pine weevil appraisal survey. (p. 871).

INSECTS not known to occur in the United States. (p. 873).

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Reports in this issue are for the week ending October 3, unless otherwise designated.

## WEATHER BUREAU 30-DAY OUTLOOK

## OCTOBER 1958

The Weather Bureau's 30-day outlook for October calls for temperatures to average below seasonal normals over most of the nation east of the Continental Divide except for near to slightly above normal in New England and along the South Atlantic coast. Greatest departures are indicated over the Central Plains. Above normal temperatures are predicted for West Coast States, and near normal in the inter-mountain area. Precipitation is expected to exceed normal over the eastern third of the nation and also in the west Gulf States. Subnormal amounts are predicted west of the Continental Divide and in the Northern Plains. In unspecified areas near normal precipitation is in prospect.

Weather forecast given here is based on the official 30-day "Resume and Outlook", published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price $4.80 a year, $2.40 a half year.

## WEATHER OF THE WEEK ENDING OCTOBER 6

Last week's weather was unusually warm and dry in the Far West and cool and dry east of the Continental Divide, except in the Gulf and Atlantic Coastal States where 1 to 4 rainy days produced rainfall totals of an inch or more. Except for Arizona which reported up to an inch of rain at some southern and eastern points, the Far West received no rain at all. And temperatures for the week averaged from 3° to 10° above normal in the Pacific States. In California, abnormally warm weather has persisted for several months, and last week's anomalies which ranged up to 10° or more were the greatest this year to date The warm weather also ended one of the warmest Septembers along California's coast, where San Francisco had its warmest month in history, San Diego its second warmest September, and Los Angeles its third warmest. Extending northward along the coast of Oregon, the hot weather pushed the mercury up to 99° at Brookings on September 30 and temperatures for the week there averaged 18° above normal. The hot, dry weather produced an extreme fire hazard in many areas. Three major fires broke out in California and before being controlled, 1 firefighter was killed near Newhall, 8 homes and 20 cabins near Monrovia were burned, and 14,000 acres of watershed land were blackened.

Cold air overspread all areas east of the Rockies except southern Florida early in the week, and low temperatures ranged from the teens in extreme north-central areas to freezing at points in Oklahoma, Arkansas, and Kentucky. This freeze was about 2 weeks early in many sections. Kansas reported its first snow of the season, a trace at Goodland on September 30, and flurries were general in the northern two-thirds of Minnesota on October 1. The lowest temperatures in the Northeast, however, occurred at the end of the week when another cold air mass moved across that section pushing the mercury down into the 20's at many inland stations. In the northern Great Plains, an almost rainless week prolonged the general need for rain there. Elsewhere in the Plains, the dry weather favored harvesting operations. Rains in the Gulf States interupted farm activities. Tropical storm Janice, moving in a northerly direction across Cuba and the Bahamas, had gained hurricane intensity at 11:00 p.m. on October 6 e.s.t. when about 250 miles east of Palm Beach, Florida. At 5:00 a.m., October 7, e.s.t. she was about 330 miles east of Melbourne, Florida, moving northeastward about 17 mph. (Summary supplied by U. S. Weather Bureau).

## CEREAL AND FORAGE INSECTS

GRASSHOPPERS - KANSAS - Populations practically non-existent in eight southeastern counties. (Matthew). TEXAS - Medium infestation of Melanoplus bilituratus on wheat in Hansford, Sherman, Moore, Dallam and Hartley Counties. (Russell). Medium infestation in Deaf Smith County. (Thomas). WISCONSIN - Well dispersed; extent of egg deposition unknown. (Wis. Coop. Sur.). NORTH CAROLINA - Melanoplus sp. abundant in Henderson County. (Thompson, Pake).

EUROPEAN CORN BORER (Pyrausta nubilalis) - KANSAS - Percent stalk infestation averaged 16.6 percent and average number of borers per 100 stalks was 26.6 in Anderson, Linn, Bourbon, Crawford, Cherokee, Labette and Neosho Counties. (Matthew). OHIO - Fall population low in Van Wert County; 24 fields of field corn intensively surveyed, averaged 14 larvae per 100 plants. (Triplehorn). ARKANSAS - Found for first time in Sebastian, Scott, Polk, Montgomery, Miller, Nevada and Howard Counties. Also found in corn in Hempstead County. Larvae found in young corn; early planted corn not infested. (Ark. Coop. Rpt., Sept. 27). WISCONSIN - Populations appear low. (Wis. Coop. Sur.).

CORN EARWORM (Heliothis zea) - DELAWARE - Common on corn and alfalfa in New Castle County. (Burbutis, Conrad). OHIO - Severe infestation on field corn at Lima. Otherwise, infrequently encountered in northwestern area. (Triplehorn). OKLAHOMA - Counts per head of grain sorghum averaged 0.1-0.3 in Hughes, Haskell and Pittsburg Counties and 1.6 in Tonkawa area. (VanCleave, Henderson). NEVADA - Heavy infestations present in field corn in Moapa Valley, Clark County. (Bechtel, Sept. 26). CALIFORNIA - Populations light to medium in corn in Upper Lake, Lake County. (Cal. Coop. Rpt.). Severe damage to corn in Chino area of San Bernardino County with heaviest populations in late corn. (Purnell). Heavy general populations in beans and light in grain sorghums in Robbins area of Sutter County. (Lindt).

ARMYWORM (Pseudaletia unipuncta) - NEVADA - Heavy infestation on timothy in Smith Valley area, Lyon County. Some fields damage very severe and larval migrations quite common. (Bechtel, Burge, Gallaway, Sept. 26).

FALL ARMYWORM (Laphygma frugiperda) - KANSAS - Damage observed in few corn fields in southeastern area. Infestations ranged from 4 to 8 percent. No ear droppage. (Matthew). ARKANSAS - Infestations in corn observed in 13 counties. Pest rather general in late corn but much less severe than in 1957. (Ark. Coop. Rpt., Sept. 27). Scattered infestations on young small grain in State. (Dowell, Sept, 27). TEXAS - Light damage on early oats in Zavala County in September. (Adam). Infestation present most early and volunteer grain fields in north central area, counts light to heavy. Two treated fields with considerable damage showing. Counts were 30-40 per linear foot of row. Early planted fields not very numerous. Later plantings of small grains not expected to be damaged. (Chada). Medium to heavy infestations in Brazos County. (Sistrunk). DELAWARE - Common on ears of late field corn throughout State. (Burbutis, Conrad).

SORGHUM WEBWORM (Celama sorghiella) - OKLAHOMA - Averaging from 3-10 per 10 heads some fields late grain sorghum in Hughes, Pittsburg and Haskell Counties to 30-50 per 10 heads some fields in Muskogee County. (VanCleave).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - KANSAS - Found in 4 southeastern counties. Infestations averaged 4 percent in Crawford County, 5.6 in Cherokee County, 4.8 in Labette County and 0.8 in Neosho County. About 60 percent of larvae moved below ground level and girdled stalks beginning to lodge. (Matthew). ARKANSAS - Larvae below ground level most corn fields; about 60 percent winter phase. All instars found in younger corn. Lodging of corn less than in past 2 or 3 years. Severest lodging observed was 18 percent in field in Sebastian County. Few fields of late corn as high as 60 percent infestation; lodging may be severe in these fields later. (Ark. Coop. Rpt., Sept. 27).

SOUTHERN CORNSTALK BORER (Diatraea crambidoides) - DELAWARE - Common in some fields of corn in Sussex County. (Burbutis, Conrad).

SAP BEETLES - UTAH - Conspicuous on sweet corn at Minersville, Beaver County. Common on corn at Green River, Emery County, and throughout Grand, Kane and Washington Counties. Some infestations as far north as Box Elder and Cache Counties. (Knowlton).

CHINCH BUG (Blissus leucopterus) - KANSAS - Adults active in several corn fields in southeastern area of State. Counts ranged from 40 to over 600 per stalk in infested fields. (Matthew). OKLAHOMA - Averaged 200-300 per stalk some fields of grain sorghum in Hughes County. (VanCleave). ARKANSAS - Observed on corn in southwest area. Numbers ranged from 0 to as high as 200-300 per plant in one field in Miller County. A few nymphs present. (Ark. Coop. Rpt., Sept. 27). TEXAS - Light infestations in small grain fields; numerous on volunteer sorghum plants in fields. (Chada).

CORN LEAF APHID (Rhopalosiphum maidis) - WASHINGTON - Was abundant on watergrass, now prevalent on fall grains, especially barley. (Landis). OKLAHOMA - Averaging 200-300 per stalk of grain sorghum some fields in Hughes County. (VanCleave). DELAWARE - Common on late field corn throughout State. (Burbutis, Conrad).

SORGHUM MIDGE (Contarinia sorghicola) - OKLAHOMA - Averaging 20-30 percent damage to heads of grain sorghum some fields in central and east central areas. (VanCleave). Many adults reared from heads of sorghum in laboratory in Payne County; none in fields. (Henderson).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - OKLAHOMA - Averaging 2-3 per 10 sweeps some alfalfa fields in Muskogee County. (VanCleave). CALIFORNIA - Light infestation on alfalfa in Standish area of Lassen County. (Cal. Coop. Rpt.). UTAH - Moderately common in alfalfa fields. (Knowlton). NEW MEXICO - Averaged 2-3 per 10 sweeps in alfalfa fields at Gila and Cliff, Grant County, and about 1 per 10 sweeps at Animas and Rodeo, Hidalgo County. (N. M. Coop. Rpt.).

BEET ARMYWORM (Laphygma exigua) - CALIFORNIA - Light damage to alfalfa fields in Standish area of Lassen County. (Cal. Coop. Rpt.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - WASHINGTON - Recorded for first time in State. Infesting alfalfa 8 miles along Columbia River, Plymouth to Whitcomb; 8 miles north of Columbia River into Horseheaven Hills; and from Wallula to College Place. (Klostermeyer, Cook). OREGON - Present in Umatilla, Gilliam and Morrow Counties. Economic damage light in two fields in Butter Creek area of Umatilla County. (Larson, Foster). CALIFORNIA - Infestations increasing in Vidal area of San Bernardino County. (Cal. Coop. Rpt.). Light to heavy spot infestations in Byron area of Contra Costa County. Not showing all fields. (Bell). NEVADA - Infestations generally light in Clark County except in drier fields in Moapa Valley where counts averaged 20-40 per stem. Spotted, light infestatons present for first time this year in Douglas County. (Roberts, Betchel, Sept. 26). COLORADO - Counts per 100 sweeps in eastern area on September 24 were none at Greeley and Easton, 40 at Windsor, 20 at Platteville, 250 at Brighton and 10 at Loveland. (Exp. Sta.). UTAH - Light to moderate in Washington County. (Knowlton). OKLAHOMA - Averaging 0-25 per 10 sweeps some alfalfa fields in Garvin and Muskogee Counties. (VanCleave).

KANSAS - Found in nearly all alfalfa fields surveyed in southeastern area. Counts on established stands ranged to highs of 40 per sweep. Common in seedling fields; no feeding observed. Infested fields also found in Lyon and Wabaunsee Counties in east central area. (Matthew).

PEA APHID (Macrosiphum pisi) - KANSAS - Populations quite low all alfalfa fields surveyed. Counts ranged from 1 to 15 per sweep. (Matthew). UTAH - Increasing damage to alfalfa in scattered localities of several northern and central counties. (Knowlton). IDAHO - Adundant in three alfalfa hay fields near Glenns Ferry and King Hill. (Edwards). NEW MEXICO - Generally light in most alfalfa fields in Luna, Hidalgo, Grant and Dona Ana Counties. Moderately heavy infestations at Rodeo, Hidalgo County. (N. M. Coop. Rpt.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Averaged 8-15 per 10 sweeps some alfalfa fields in Garvin and Muskogee Counties. (VanCleave). NEVADA - Counts averaged from 15-60 per sweep in alfalfa in Moapa Valley, Clark County. (Bechtel, Sept. 26). NEW MEXICO - From 2-4 per sweep in alfalfa at Virden and about 10 to 12 per sweep at Rodeo and Animas, Hidalgo County. (N. M. Coop. Rpt.).

CLOVER ROOT BORER (Hylastinus obscurus) - OREGON - Serious outbreak occurring in Marion County red clover seed fields. Fields planted in spring of 1958 being injured. (Ottaway).

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Averaging 3-8 per 10 sweeps some alfalfa fields in Garvin and Muskogee Counties. (VanCleave).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - DELAWARE - Heavy flights on September 19 and common in soybeans and alfalfa in New Castle County. (Burbutis, Conrad).

SOD WEBWORMS - TEXAS - Heavy infestation in Gonzales, Willacy, Cameron, Hidalgo and Brazos Counties. (Hawkins, Johnson, Jordan). OREGON - Low populations, 0-5 larvae per 6-inch square, in Merion bluegrass and to a lesser degree in Chewings fescue seed fields in Marion County. Little injury occurring to seed grasses. (Dickason, Lattin).

RED-NECKED PEANUTWORM (Stegasta basqueella) - OKLAHOMA - Fifth-generation larvae infesting 20 percent of peanut terminals in Payne County. (Walton).

A MEALYBUG (Heterococcus graminicola) - CALIFORNIA - Collected in State for first time. Medium infestation on lawn grass in Davis, Yolo County. (Cal. Coop. Rpt.).

FALSE CHINCH BUG (Nysius ericae) - CALIFORNIA - Heavy infestation in pastures in Klamath area of Del Norte County. (Cal. Coop. Rpt.).

WHEAT CURL MITE (Aceria tulipae) - IDAHO - Widespread and fairly abundant on orchardgrass and quackgrass southeast and north of Moscow. Also on volunteer wheat south of Moscow. No evidence of wheat streak mosaic virus found during survey. (Foote).

BILLBUGS - OREGON - Damaging lawns in Benton County and Merion bluegrass fields in Marion County. Injury difficult to evaluate because of low populations most instances. (Dickason, Lattin).

WHITE GRUBS - VIRGINIA - Severe some lawns and forested areas in Patrick County. (Olinger). TEXAS - Phyllophaga rugosa causing heavy damage in lawns in Hidalgo County. (Hawkins).

## FRUIT INSECTS

SHOT-HOLE BORER (Scolytus rugulosus) - NEVADA - Seriously damaging apple and peach trees in Sparks, Washoe County. (Hilbig, Sept. 26).

UNSPOTTED TENTIFORM LEAF MINER (Callisto geminatella) - PENNSYLVANIA - Several quite severe infestations on apple in Bedford County. (Udine).

Apple Insects Northern Virginia - Third brood of Argyrotaenia velutinana damaging apples in some northern orchards. About 5 percent of apples damaged on an area basis. All other apple insects were minor in northern orchards in 1958 except for Anuraphis roseus which, in the spring, accounted for one third of the crop in some orchards where controls were not applied or incorrectly applied. (Hough).

CODLING MOTH (Carpocapsa pomonella) - UTAH - Higher than normal in some Orem and Payson commercial apple orchards. (Davis, Knowlton).

MITES (Tetranychus sp.) - NEW MEXICO - Still active and feeding in several apple orchards near Albuquerque, Bernalillo County. (N. M. Coop. Rpt.).

RED-HUMPED CATERPILLAR (Schizura concinna) - CALIFORNIA - Severely defoliating prune and walnut in Yuba City area, Sutter County. (Cal. Coop. Rpt.). Scattered, light infestations of walnut trees in central and eastern Contra Costa County. (Bell, Ext. Serv.).

PEAR PSYLLA (Psylla pyricola) - CALIFORNIA - Local planting of pears in Orangevale, Sacramento County, severely damaged. (Moorehead, Ext. Serv.).

DRIED-FRUIT BEETLE (Carpophilus hemipterus) - CALIFORNIA - Heavy adult populations occurring in grapes in Gilory, Santa Clara County. (Cal. Coop. Rpt.).

SMALL CHESTNUT WEEVIL (Curculio auriger) - MARYLAND - Larval emergence at peak, oviposition continues in Queen Annes County. Ground treatments have given more than 95 percent control, but damage shows in sprayed orchards. (U. Md., Ent. Dept.).

WALNUT CATERPILLAR (Datana integerrima) - TEXAS - Damaging pecan trees in Navarro County. (Burleson).

## TRUCK CROP INSECTS

GARDEN SYMPHYLID (Scutigerella immaculata) - CALIFORNIA - Medium infestations in roots of peas in Watsonville area of Santa Cruz County. (Cal. Coop. Rpt.).

CORN EARWORM (Heliothis zea) - DELAWARE - Moderate to heavy feeding on late lima beans in New Castle County. (Burbutis, Conrad).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - DELAWARE - Prevalent on late lima beans in New Castle County. (Burbutis, Conrad).

A LEAFHOPPER (Empoasca abrupta) - CALIFORNIA - Light infestations damaging squash plantings in Anaheim area of Orange County. (Cal. Coop. Rpt.).

MELON APHID (Aphis gossypii) - CALIFORNIA - Heavy populations damaging melons in La Jolla area of San Diego County. (Cal. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - CALIFORNIA - Causing medium damage to potato plantings in Stronghold area of Modoc County. (Cal. Coop. Rpt.). Severe in cabbage in Chino area of San Bernardino County. (Purnell). UTAH - Injury above normal this season. (Davis, Knowlton). NEW MEXICO - Extremely heavy infestation in cabbage field at Deming, Luna County. (N. M. Coop. Rpt.). VIRGINIA - Some fields of broccoli and greens quite heavily infested on Eastern Shore. Control not satisfactory. (Hofmaster). MARYLAND - Population decreasing sharply on cabbage at Fairland. (U. Md., Ent. Dept.).

CABBAGE MAGGOT (Hylemya brassicae) - WASHINGTON - On fall turnips at Union Gap. (Landis).

POTATO ROT NEMATODE (Ditylenchus destructor) - WISCONSIN - Eight infestations found in Langlade County and one in Portage County to date in 1958. (Wis. Coop. Sur., Oct. 3).

PEPPER WEEVIL (Anthonomus eugenii) - CALIFORNIA - Medium infestations damaging bell peppers in the Oxnard area of Ventura County. (Cal. Coop. Rpt.).

ONION MAGGOT (Hylemya antiqua) - IDAHO - Almost completely destroyed about 40 acres of first-year seed onions in Parma area. About 20 percent of stand remains. All stages of larvae present. (Scott).

BEET ARMYWORM (Laphygma exigua) - CALIFORNIA - Medium populations damaging potato plantings in Stronghold area of Modoc County, on lettuce in Borrego Springs area and on bell peppers in Encanto area of San Diego County. Heavy infestations on peas in Watsonville area of Santa Cruz County. (Cal. Coop. Rpt.).

A LEAF MINER - VIRGINIA - Heavy infestations reported in leaves of beets by a species of dipterous larvae, probably Pegomya hyoscyami, on August 18 in Bland County. (Morris).

WHITE GRUBS - IDAHO - Infesting small planting of sweetpotatoes near Parma. Approximately 65 to 74 percent of roots attacked, some roots completely destroyed. Species possibly Ligyrus gibbosus. (Scott).

## COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - OKLAHOMA - Averaging 30-70 percent infestation of squares and small bolls in late cotton fields in Sequoyah County. (VanCleave).

COTTON APHID (Aphis gossypii) - OKLAHOMA - Generally light in Sequoyah County. Heavy in spots one field. (VanCleave). NEW MEXICO - Generally light infestations on cotton throughout Dona Ana, Luna and Hidalgo Counties. (N. M. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - NEVADA - Spotted, medium infestation occurred in Pahrump Valley, Nye County. (Coop. Rpt., Sept. 26).

PINK BOLLWORM (Pectinophora gossypiella) - NEVADA - Survey of 2,684 acres with inspection of 4,857 bolls in Pahrump Valley, Nye County, and Moapa Valley, Clark County, was negative. Light trap collections also negative. (Coop. Rpt., Sept. 26).

## FOREST, ORNAMENTAL AND SHADE TREE INSECTS

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - The epidemic that began in 1952-53 in western NORTH CAROLINA, estern TENNESSEE, northeastern GEORGIA and northwestern SOUTH CAROLINA appears to have subsided. The epidemic in Tyrrell County,eastern NORTH CAROLINA, covered a 145-square mile area, involving 450 trees. Ground examinations of several of the infested areas revealed attacked trees contained very heavy broods and that at least 50 percent more trees with green needles had been injured. The epidemic is increasing and possibly 12,000 trees will be killed in 1958. (Southeast. For. Ins. and Dis. Newsl., Sept.).

A PINE BARK BEETLE (Pityophthorus carmeli)- CALIFORNIA - Reported as damaging stands of Monterey pines in area below Point Lobos Park in Monterey County. Damaging smaller branches and twigs and causing yellow flagging in the trees. (Dowdakin).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - More reports received concerning activity in mountains in previous years in the Southeastern States. Control applied in two areas, the George Washington National Forest in VIRGINIA and the Chattahoochee National Forest in GEORGIA. Tree mortality almost negligible in both these locations. Infestations fairly heavy in western NORTH CAROLINA. (Southeast. For. Ins. and Dis. Newsl., Sept.).

ADLER FLEA BEETLE (Altica ambiens) - IDAHO - Very widespread in northern area. Adults still active on October 1. (Clark).

ORANGE-STRIPED OAKWORM (Anisota senatoria) - PENNSYLVANIA - Complete defoliation in a ten-square mile area of oak in Cumberland County, September 23. Pupae and larvae now present. (Drooz).

A FIR CONE MOTH (Barbara colfaxiana) - CALIFORNIA - Considerable damage to Douglas fir cones in Siskiyou and Shasta Counties. Practically 100 percent of seeds in cones examined were destroyed. (USFS).

NANTUCKET PINE MOTH (Rhyacionia frustrana) - TEXAS - Damaging young pines in Madison County. (Garrett).

ELM SPANWORM (Ennomos subsignarius) - Defoliation in GEORGIA, TENNESSEE and NORTH CAROLINA occurred on some 570,000 acres of hardwood forest during May and June, an increase of 270,000 acres over the affected area of 1957. Complete defoliation occurred in TENNESSEE near Sassafras Knob and west of Hiwassee Reservoir in NORTH CAROLINA. This year adult flights extremely heavy in Murphy, NORTH CAROLINA, and observed in Knoxville, TENNESSEE and Athens, GEORGIA. If the spread of the insect increases next year as in the past, it is quite possible that one million acres of hardwood forest will suffer measurable defoliation. (Southeast. For. Ins. and Dis. Newsl., Sept.).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - PENNSYLVANIA - Limbs killed on 30-foot spruces in Elk County, September 26. (Adams).

SARATOGA SPITTLEBUG (Aphrophora saratogensis) - PENNSYLVANIA - Severe injury to pines in Clarion County. (Drooz).

GALL INSECTS - TEXAS - Infesting leaves of oaks in Harris, Dallas, Freestone, Brazoria and Brazos Counties. (Co. Agr. Agents).

A BALSAM WOOLLY APHID (Chermes piceae) - NORTH CAROLINA - Severe mortality of Fraser fir on 1500 acres of Mt. Mitchell scenic and recreation area apparently due to this species. (Southeast. For. Ins. and Dis. Newsl., Sept.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - ARKANSAS - Severe damage to Chinese elms in Arkadelphia. Lack of equipment resulted in poor control. (Ark. Coop. Rpt., Sept. 27).

MIMOSA WEBWORM (Homadaula albizziae) - ARKANSAS - Defoliated majority of mimosas in Arkadelphia. (Ark. Coop. Rpt., Sept. 27).

HAWTHORN LACE BUG (Corythucha cydoniae) - OKLAHOMA - Abnormally heavy, for this time of year, on pyracantha in Payne County. (Walton).

SCALE INSECTS - MARYLAND - Aspidiotus perniciosus common on Japanese quince and many other ornamentals over State. (U. Md., Ent. Dept.). NORTH DAKOTA - A heavy infestation of Lecanium corni on green ash at Crosby in northwestern area. (N. D. Ins. Rpt.).

EUROPEAN EARWIG (Forficula auricularia) - MARYLAND - Additional specimens brought to Wheaton on yard furniture from out-of-State, September 30. These specimens and previous one (CEIR 8(39):836) regarded as interceptions. As far as known, this insect is not established in Maryland. (Bissell). WYOMING - Recently a problem in Evanston. (Davison).

## INSECTS AFFECTING MAN AND ANIMALS

SCREW-WORM (Callitroga hominivorax) - NEVADA - Larvae from cattle and swine at Fallon, Churchill County; Caliente and Elgin, Lincoln County; and Dayton, Lyon County identified as this species. (Bechtel, Sept. 26).

HOUSE FLY (Musca domestica) - OKLAHOMA - Populations extremely high in sheltered areas in Payne and Sequoyah Counties. (Howell, VanCleave). IDAHO - Unusually abundant in Twin Falls. A nuisance in houses and office buildings within the city. (Gibson).

YELLOW JACKETS - UTAH - Annoying elk hunters and campers in some northern areas. (Knowlton).

FLEAS - OKLAHOMA - Numerous in some recently vacated homes in Payne County. (Howell).

## STORED-PRODUCT INSECTS

CONFUSED FLOUR BEETLE (Tribolium confusum) - NORTH DAKOTA - A heavy infestation in newly stored oats at Williston. (N. D. Ins. Rpt.).

## BENEFICIAL INSECTS

PREDATORS - OKLAHOMA - Hippodamia convergens averaging 4-8 per 10 sweeps in central and east central area. Nabis sp. averaging 0-6 per 10 sweeps in alfalfa in same area. (VanCleave). NEW MEXICO - Syrphid larvae averaged 2 per sweep in alfalfa fields heavily infested with pea aphids at Rodeo, Hidalgo County. (N. M. Coop. Rpt.).

## MISCELLANEOUS INSECTS

GIANT HORNET (Vespa crabro germana) - TENNESSEE - Collected in light trap in Johnson County. (Bennett).

GREATER WAX MOTH (Galleria mellonella) - NORTH CAROLINA - Local infestation in beeyard in Polk County. (Stephen, Farrier).

## CORRECTION

CEIR 8(39):834 - Heliothis zea - Colorado - Last sentence should read "This is the lowest second week September count average for the past 4 years."

## LIGHT TRAP COLLECTIONS

|  | Pseud. unip. | Agrot. yps. | Prod. ornith. | Perid. marg. | Laphyg. frug. | Anticarsia gemmatalis | Heliothis zea |
|---|---|---|---|---|---|---|---|
| ALABAMA |  |  |  |  |  |  |  |
| Crossville 9/29 | 1 |  |  |  |  |  | 3 |
| ARKANSAS |  |  |  |  |  |  |  |
| Kelso 9/18-24 | 5 | 15 |  |  | 3 |  | 174 |
| Fayetteville 9/18-24 | 12 | 12 |  |  | 28 |  | 69 |
| FLORIDA |  |  |  |  |  |  |  |
| Quincy 9/15,23,29 | 6 | 3 |  |  |  |  | 33 |
| ILLINOIS |  |  |  |  |  |  |  |
| Urbana 9/22-10/2 | 16 | 1 | 2 | 22 | 1 |  | 35 |
| INDIANA(Counties) |  |  |  |  |  |  |  |
| Orange 9/24-28 | 4 |  | 3 | 2 |  |  | 12 |
| Tippecanoe 9/25-10/1 | 19 | 17 | 12 | 25 | 9 |  | 8 |
| KANSAS |  |  |  |  |  |  |  |
| Hayes 9/26-29 |  | 2 |  |  |  |  | 46 |
| Manhattan 9/27-30 |  |  |  |  |  |  | 9 |
| LOUISIANA |  |  |  |  |  |  |  |
| Shreveport 9/26-10/2 | 3 | 1 | 1 |  | 13 | 2 | 26 |
| Franklin 10/1 | 2 |  |  |  |  |  |  |
| Baton Rouge 9/26-10/2 | 4 | 7 | 5 | 1 | 57 | 33 | 19 |
| MISSISSIPPI |  |  |  |  |  |  |  |
| *Stoneville 9/26-10/2 | 15 | 3 | 2 |  | 47 |  | 23 |
| NORTH CAROLINA |  |  |  |  |  |  |  |
| Faison 10/2 | 104 | 63 | 7 |  |  |  | 9 |
| SOUTH CAROLINA |  |  |  |  |  |  |  |
| Florence 9/28-10/4 | 20 | 10 | 8 | 11 | 34 | 15 | 19 |
| Clemson 9/27-10/3 | 14 | 6 | 8 | 4 | 15 |  | 14 |
| Charleston 9/29-10/5 | 42 | 20 | 9 |  | 15 | 162 | 31 |
| TENNESSEE(Counties) |  |  |  |  |  |  |  |
| Madison 9/23-29 | 5 |  | 3 |  |  |  | 27 |
| Maury 9/23-29 |  | 5 | 20 |  |  |  | 184 |
| Robertson 9/23-29 | 10 | 8 | 12 | 4 |  |  | 38 |
| Cumberland 9/23-29 | 20 | 10 | 22 | 2 |  |  | 82 |
| Greene 9/23-29 | 66 | 12 | 40 | 4 | 2 |  | 32 |
| Blount 9/23-29 | 6 | 14 | 28 |  | 10 |  | 24 |
| Johnson 9/23-29 | 96 | 9 | 51 | 6 |  |  | 2 |
| TEXAS |  |  |  |  |  |  |  |
| Waco 9/27-10/3 | 13 |  | 16 | 30 |  |  | 60 |

ADDITIONAL COLLECTIONS: TEXAS - Waco (9/27-10/3) - Alabama argillacea - 335; Pectinophora gosspiella - 422.

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* Two traps - Stoneville.

Uniform Survey Procedure Approved By
The Lake States Forest Insect Survey Committee - 1958

## WHITE-PINE WEEVIL APPRAISAL SURVEY

### PURPOSE:

The white-pine weevil has been a serious pest of pines and spruces in the Lake States for many years. Infestations can be severe in white, jack, Scotch, and red pines and in Norway spruce. Other species sometimes seriously damaged are Austrian pine and white spruce. Direct control measures to prevent attack have met with some degree of success. An appraisal survey is required to enable the forester and the entomologist to determine the degree of infestation to be used as a guide in making control recommendations.

### INSTRUCTIONS:

#### Time of Survey

The time when weevil attack first becomes evident will depend on the locality, weather conditions, and tree species. For the Lake States in general this will be about mid-June. The effects of weeviling will be readily visible for the remainder of the season.

#### Method of Survey

This survey involves determination of the percentage of attack presently occurring in a plantation. Data obtained will be classified in categories representing light, medium, heavy, or no weeviling. The first sample is taken at least 1 chain from the edge of the planting. At this point the observer tallies 10 trees along the row. To establish the second sample 2 chains are paced from the last tree examined. Subsequent samples are taken in the same manner until the end of the row is reached. Additional sample lines are run through the planting at 5-chain intervals. When the plantation is not established in rows - some types of underplanting for example - and does not lend itself to line sampling, cluster samples of 10 trees should be taken along a compass line. The intervals should be the same as for regularly spaced rows. A minimum of one sample for each acre of plantation, having less than 1,000 trees per acre, is required for accurate results. Two samples are required for plantations having more than 1,000 trees per acre. The observer may obtain this average number of trees per acre by establishing, at random, three 1/50-acre circular plots (16.6 feet in radius) in each plantation.

#### Tallying Data Sheet

Each sample consists of 10 trees approximately 2 chains apart. Only the currently weeviled trees should be tallied.

Column: 1. Weeviled trees - current year's weeviling.

2. Non-weeviled trees - can be previously weeviled but not in the current year.

3. Cumulative total of weeviled trees - this column represents the total for the previous plots.

Example:

| Plot number | Number weeviled | Cumulative total weeviled | Non-weeviled |
|---|---|---|---|
| 1 | 2 | 2 | 8 |
| 2 | 3 | 5 | 7 |
| 3 | 1 | 6 | 9 |

## SUMMARY OF DATA

Categories for the seriousness of damage are based on percentage of weeviling arbitrarily established for this survey at the following levels.

Heavy - 25 percent or more of the sampled trees weeviled.

Medium - 10 to 25 percent of the sampled trees weeviled.

Light - Less than 10 percent of the sampled trees weeviled.

Determination of the needs for control will vary with values placed on individual plantations by the owner. (S. E. Banish, Wis. Conservation Dept.).

### WHITE-PINE WEEVIL APPRAISAL SURVEY

Description: T.______ R.______ S.________ Forty:______________ Date:____________________

Host:____________________ Acreage:____________ Age:________ Spacing________________

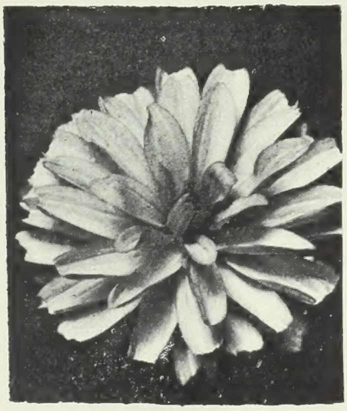
Average Height of Trees:_____________ Average Number of Trees Per Acre:____________

| Plot Number | Number of Trees | | | Plot Number | Number of Trees | | |
|---|---|---|---|---|---|---|---|
| | Weeviled | Cumulative Total | Non-Weeviled | | Weeviled | Cumulative Total | Non-Weeviled |
| 1 | | | | 26 | | | |
| 2 | | | | 27 | | | |
| 3 | | | | 28 | | | |
| 4 | | | | 29 | | | |
| 5 | | | | 30 | | | |
| 6 | | | | 31 | | | |
| 7 | | | | 32 | | | |
| 8 | | | | 33 | | | |
| 9 | | | | 34 | | | |
| 10 | | | | 35 | | | |
| 11 | | | | 36 | | | |
| 12 | | | | 37 | | | |
| 13 | | | | 38 | | | |
| 14 | | | | 39 | | | |
| 15 | | | | 40 | | | |
| 16 | | | | 41 | | | |
| 17 | | | | 42 | | | |
| 18 | | | | 43 | | | |
| 19 | | | | 44 | | | |
| 20 | | | | 45 | | | |
| 21 | | | | 46 | | | |
| 22 | | | | 47 | | | |
| 23 | | | | 48 | | | |
| 24 | | | | 49 | | | |
| 25 | | | | 50 | | | |
| TOTAL | | | | TOTAL | | | |

## INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

### CABBAGE MOTH (Mamestra brassicae (L.))

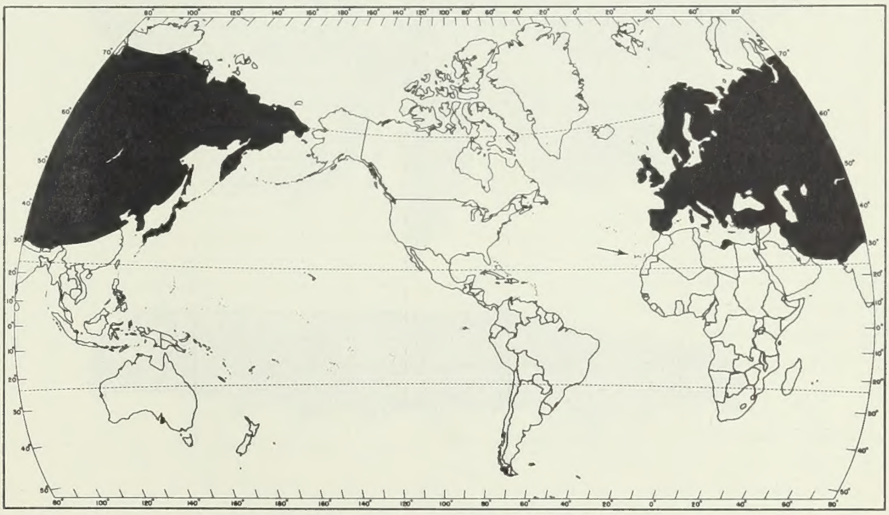
Economic Importance: The larvae of the cabbage moth are very destructive to vegetables, particularly cabbage and other crucifers, and ornamental flowers in Europe and Asia. Though injury is of less general importance, sugar beets, tobacco and hemp are sometimes heavily damaged. In the U.S.S.R., Mamestra brassicae is considered to be more injurious to cabbage than Pieris brassicae because the larvae bore into the heart of the plant to a greater extent. However, when populations are extremely numerous, whole plants may be destroyed. In Bulgaria the annual loss of cabbage attributed to this pest has been estimated at from 20 to 30 percent, with up to 80 percent loss in some badly infested localities. Larval counts have averaged up to 50 per plant in severe infestations in that country. M. brassicae has been taken with increasing frequency since 1945 at U. S. ports of entry, principally at Atlantic Coast ports.



Damage to Dahlia

Distribution: Occurs generally throughout Europe; also recorded in Libya, Turkey, Iran, Kashmir, West Pakistan, India (Punjab), China (Tibet and Northern China), Korea, Japan, Asiatic part of U.S.S.R. and the Canary Islands.

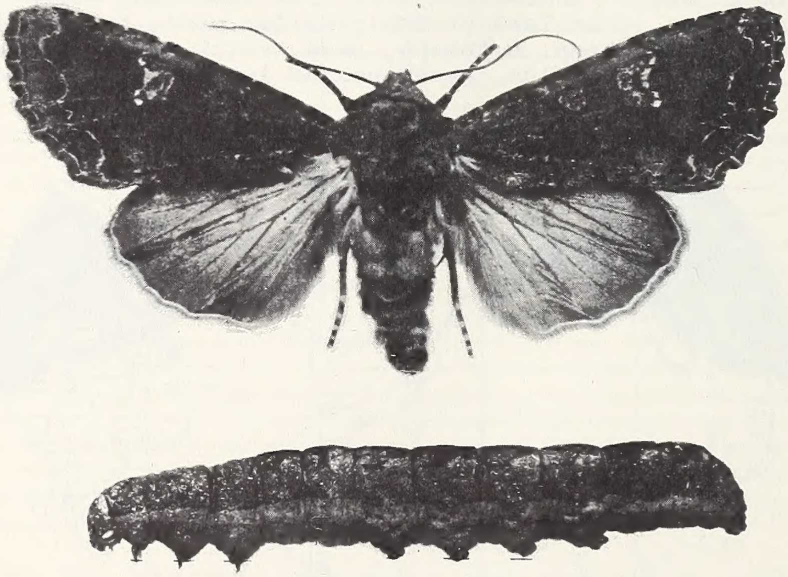
Hosts: This is a general feeder and will live upon many kinds of plants, both cultivated and wild. Crucifers probably suffer most, but tomatoes, tobacco, lettuce, onions, corn, hemp, soybeans, peas, vetch, flax and several ornamentals including calendula, gladiolus, geranium and lupine are quite often attacked.



General Distribution of Cabbage Moth

**Life History and Habits:** The life history of Mamestra brassicae as recorded in Bulgaria is as follows: The female deposits its eggs in 6 to 28 clusters, 15 to 188 per cluster. Females may deposit from 438 to several hundred eggs, generally on the underside of the leaf. Eggs hatch in 6 to 9 days. The larvae pass through 5 molts in 25 to 30 days, feeding on the leaves of the host plants or in some instances into the heads and stalks. Pupation takes place in the soil, 5 to 6 cm. deep. The pupal period during the summer averages about 27 days before emergence of the new generation. Hibernation takes place in the pupal stage. In Bulgaria two generations a year are normal, sometimes a partial third generation developing, while in Scotland one generation is usual with a partial second generation sometimes being produced. Characteristic damage to disc-shaped flowers involves feeding on the outer circumference at first and then uniformly, all around, gradually working inwards until nothing is left but the central disc of flowers.

**Description:** The adult wing expanse is about 44 mm. Forewing dark brown irrorated with gray; many blackish streaks and marks present. Subterminal line not defined by whitish on inner side. This character separates M. brassicae from M. configurata, a North American species which has subterminal line prominently defined by whitish on inner side. Orbicular spot is distinctly defined by black. Hindwing brown, pale at base with whitish fringe. Thorax color same as forewings. Abdomen brown with more or less distinct tufts down back, tip of abdomen distinctly tufted. Legs brown and very hairy at base. Fore tibia with long terminal claw. This character separates M. brassicae from the species of closely related genus Polia. Larvae vary greatly in color when mature, but always green when young. Mature larvae are about 30 mm. long and have three light lines with slanting black marks in each segment. Head is ochreous and horny, first segment blackish. Legs and prolegs green,spiracles pure white. Body surface smooth with few hairs. Pupa shining chestnut-brown, with occasional darker areas. (Prepared in Plant Pest Survey Section in cooperation with other ARS agencies.) CEIR 8(41)10-10-58



Adult and Larva of M. brassicae

Figures (except map): Adult and larva from Gt. Brit. Ministry of Agriculture and Fisheries. 1931. Cabbage Moth Caterpillars. Advisory Leaf. No. 70, 4 pp. Damage from Cameron, A.E. 1939. Insect and other Pests of 1938. Highland and Agr. Soc. of Scotland, Trans. Ser. 5, 51:136-174.